



PATENT
29888/36772A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:

Gabriel Raviv et al.

Serial No.: 09/901,244

For: Ear Probe Tip

Filed: July 9, 2001

Group Art Unit: 3736

Examiner: Pamela L. Wingood

-) I hereby certify that this paper is being
) deposited with the United States Postal
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) prepaid, in an envelope addressed to:
) Commissioner for Patents, Washington,
) D.C. 20231, on this date:
) **February 17, 2003**
) Frankie Ho
) Frankie Ho
) Registration No. 48,479
) Attorney for Applicants

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DECLARATION OF GABRIEL RAVIV PURSUANT TO 37 C.F.R. § 1.132

Commissioner for Patents
Washington, D.C. 20231

Sir:

I, Gabriel Raviv, hereby declare:

- 1) I am a U.S. citizen residing in the State of Illinois.
- 2) I hold a Doctorate degree in electrical engineering from Northwestern University.
- 3) I am currently Chairman and Chief Executive Officer of Bio-logic Systems Corp., and have been serving in such a capacity since 1981.
- 4) Bio-logic Systems Corp., the assignee of the above-referenced application, is one of the world's leading designers, developers and marketers of computerized neurodiagnostic testing systems. The company's products are used by hospitals, physicians and clinics to diagnose neurological, sensory and sleep disorders.
- 5) I am one of the inventors listed in the above-referenced application.

6) I have reviewed the references cited in the attached Supplemental Information Disclosure Statement, as well as the references cited in the Informational Disclosure Statement filed on December 7, 2001.

7) Among the references cited in the attached Supplemental Information Disclosure Statement is a family of ear probe tips believed to have been in public use or on sale before the critical date of the pending application and the critical date of its parent application (serial no. 09/225,754 filed on January 5, 1999 and issued on July 10, 2001 as U.S. Patent No. 6,258,043, hereinafter the '043 patent). See photos attached as Exhibit A. This ear probe tip was raised to my attention by representatives of Etymotic Research, Inc. of Elk Grove Village, IL, USA in response to a discussion with Etymotic of the existence of the pending application and its parent application. The subject of the discussions was the possibility that a different ear probe tip produced by Etymotic may infringe the claims of the pending application once issued and the '043 patent.

8) In fact, I was aware of this tip design as it served as the basis for my desire to design the ear probe tip claimed in the '043 patent and the ear probe tip claimed in the pending application. As discussed below, this tip design has several disadvantages overcome by the claimed ear probe tip.

9) The type of ear probe tip shown in Exhibit A has a body portion, an internal passage into which a probe end is inserted and a mushroom-like flange formed at one end of the body portion. In this regard, this tip is very much like the tip shown in U.S. Patent No. 4,122,841 to Rock et al. disclosed by the applicants in both the pending application and the application that matured into the '043 patent. The internal passage is conical. The mushroom-like flange is designed to seal externally of the ear canal. As a result of the mushroom-like

flange and its manner of sealing, a large number of different sizes of this probe tip is required because of the large variability in the sizes and shapes of infant, child and adult human ears and ear canals. This disadvantage of having to provide probe tips in a large number of different sizes is discussed in the background portion of the pending application and the '043 patent.

10) In this same family of ear probe tips is one that does not include the mushroom-like flange (see photos attached as Exhibit B) or any flanges at all for that matter. This ear probe tip is intended for use with infants only, as the probe would otherwise enter into subjects ear canal and lacking any flanges would not provide an adequate seal of the ear canal.

11) The goal in designing the claimed ear probe tip was to provide a tip that would provided a good seal within the ear canal, and that would eliminate the need for a large number of different sizes. The ear probe tip also needed to have a minimal impact on testing, and in that regard should not form an acoustic passage from the probe end into the ear canal. The ear probe tip also needed to prevent injury to the patient as a result of insertion of the ear probe end into the ear canal, but be capable of easily entering the ear canal in order to form the required seal.

12) The claimed design meets all of the criteria. The inner passage is conical to easily receive the probe end so that the probe end may be inserted into the ear canal. The passage is also sized, i.e., has a length and diameter, so that substantially all of the passage is occupied by the ear probe end so that the passage does not form any significant portion of the acoustic path from the ear probe end into the ear canal and so that the ear probe tip does not obstruct the probe end. A small portion of the ear probe tip may extend beyond the probe end so that the probe end is protected and does not cause injury to the patient as the probe end is inserted into the ear canal. This small portion may also be tapered to allow the ear probe end to be easily inserted into the

ear canal. Further, the flexible annular flanges ensure that there is good sealing of the ear canal over a large range sizes of the ear canal.

13) As one of ordinary skill in the art of ear probe tip technology, the subject matter specified in claims 32-42, 44-52, and 54-59, in my opinion, is novel in light the cited references.

14) In light of the above, it can be seen that current ear probe tips do not provide an inexpensive, one-size-fit-all solution to accommodate different sizes of ear canals and to form a substantial acoustic seal between the probe and the ear canal for a wide range of ear canal size. Until the advent of our ear probe tip, such problems have remained unsolved.

15) I hereby declare the foregoing to be true under penalty of perjury.

Signed,



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February Z, 2003